

Form PTO-1449 (REV. 8-83)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 23438.00045		APPLICATION NO. 10/773,101	
INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)				APPLICANT Paul V. Cooper			
				FILING DATE February 4, 2004		GROUP UNKNOWN	
				SYSTEM FOR RELEASING GAS INTO MOLTEN METAL			

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 JUN 27 2005
 PATENT & TRADEMARK OFFICE

U. S. PATENT DOCUMENTS							
EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
/SK/		1,100,475	06-16-14	Franckaerts			
		1,331,997	02-24-1920	Neal			
		1,454,967	05-15-1923	Gill			
		1,518,501	12-09-1924	Gill			
		1,522,765	01-13-1925	Wilke			
		1,526,851	02-17-1925	Hall			
		1,669,668	05-15-1928	Marshall			
/SK/		1,673,594	06-12-1928	Schmidt			

FOREIGN PATENT DOCUMENTS								
	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION	
							YES	NO
/SK/		0665378A1	02-08-95	EP			Yes	Abstract
		1,185,314	03-25-1970	UK				
		1,800,446	12-11-1969	DE			Yes	Abstract
		GB 2,217,784 A	03-20-1989	UK				
/SK/		392,268	09-1965	Switzerland			Yes	Abstract

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		

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/SK/		1,717,969	06-18-1929	Goodner			
		1,896,201	02-07-1933	Sterner-Rainer			
		2,038,221	04-21-1936	Kagi			
		209,219	10-22-1878	Bookwalter			
		2,280,979	04-28-1942	Rocke			
		2,290,961	07-28-1942	Heuer			
		2,488,447	11-15-1949	Tangen et al			
/SK/		251,104	12-20-1881	Finch			
FOREIGN PATENT DOCUMENTS							
	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
/SK/		416,401	06-1974	Soviet Union			Yes Abstract
		58-048796	03-1983	Japan			Yes Abstract
		63-104773	5-1998	Japan			Yes Abstract
		683,469	03-31-1964	Canada			Yes Abstract
/SK/		773,312	10-1980	Soviet Union			Yes Abstract
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
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/SK/		2,515,478	07-18-1950	Tooley et al.				
		2,528,210	10-31-1950	Stewart				
		2,566,892	09-04-1951	Jacobs				
		2,677,609	05-04-1954	Moore et al.				
		2,698,583	01-04-1955	House et al.				
		2,787,873	04-09-1957	Hadley				
		2,808,782	10-08-1957	Thompson et al.				
/SK/		2,821,472	01-28-1958	Peterson et al.				
FOREIGN PATENT DOCUMENTS								
	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION	
							YES	NO
/SK/		90,756	01-1958	Norway			Yes	
/SK/		942,648	11-27-1963	U.K.			Abstract	
/SK/		WO 98/25031	06-11-1998	WO				
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)								
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/SK/		2,832,292	04-29-1958	Edwards			
		2,865,618	12-23-1958	Abell			
		2,901,677	08-25-1959	Chessman et al.			
		2,948,524	08-09-1960	Sweeney et al.			
		2,978,885	04-11-1961	Davison			
		2,984,524	05-16-1961	Franzen			
		2,987,885	06-13-1961	Hodge			
/SK/		3,010,402	11-28-1961	King			
FOREIGN PATENT DOCUMENTS							
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/SK/		3,048,384	08-07-1962	Sweeney et al.			
		3,070,393	12-25-1962	Silverberg et al.			
		3,092,030	06-04-1963	Wunder			
		3,227,547	01-04-1966	Szekely			
		3,244,109	04-05-1966	Barske			
		3,251,676	05-17-1966	Johnson			
		3,255,702	06-14-1966	Gehrm			
/SK/		3,272,619	09-13-1966	Sweeney et al.			
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/SK/		3,289,473	12-06-1966	Louda			
		3,291,473	12-13-1966	Sweeney et al.			
		3,400,923	09-10-1968	Howie et al.			
		3,417,929	12-24-1968	Secrest et al.			
		3,459,133	08-05-1969	Scheffler			
		3,459,346	08-05-1969	Tinnes			
		3,487,805	01-06-1970	Satterthwaite			
/SK/		3,512,762	05-19-1970	Umbricht			
FOREIGN PATENT DOCUMENTS							
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/SK/		3,512,788	05-19-1970	Kilbane			
		3,575,525	04-20-1971	Fox et al.			
		3,618,917	11-09-1971	Fredrikson			
		364,804	06-14-1887	Cole			
		3,650,730	03-21-1972	Derham et al.			
		3,689,048	09-05-1972	Foulard, et al.			
		3,715,112	02-06-1973	Carbonnel			
/SK/		3,743,500	07-03-1973	Foulard et al.			
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/SK/		3,743,263	07-03-1973	Szekely			
		3,753,690	08-21-1973	Emley et al.			
		3,759,635	09-18-1973	Carter et al.			
		3,767,382	10-23-1973	Bruno et al.			
		3,776,660	12-04-1973	Anderson et al.			
		3,785,632	01-15-1974	Kraemer, et al.			
		3,814,400	06-04-1974	Seki			
/SK/		3,824,042	07-16-1974	Barnes et al.			
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/SK/		3,836,280	09-17-1974	Koch			
		3,839,019	10-01-1974	Bruno et al.			
		3,871,872	03-18-1975	Downing et al.			
		3,873,305	03-25-1975	Claxton et al.			
		3,886,992	06-03-1975	Maas et al.			
		3,915,694	10-28-1975	Ando			
		3,954,134	05-04-1976	Maas et al.			
/SK/		3,961,778	06-08-1976	Carbonnel et al.			
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/SK/		3,966,456	06-29-1976	Ellenbaum et al.			
		3,972,709	08-03-1976	Chin et al.			
		3,984,234	10-05-1976	Claxton et al.			
		3,985,000	10-12-1976	Hartz			
		3,997,336	12-14-1976	van Linden et al.			
		4,003,560	01-18-1977	Carbonnel			
		4,018,598	04-19-1977	Markus			
/SK/		4,052,199	10-04-1977	Mangalick			

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/SK/		4,055,390	10-25-1977	Young			
		4,068,965	01-17-1978	Lichti			
		4,091,970	05-30-1978	Kimiyama et al.			
		4,119,141	10-10-1978	Thut et al.			
		4,126,360	11-21-1978	Miller et al.			
		4,128,415	12-05-1978	van Linden et al.			
		4,144,562	03-13-1979	Cooper			
/SK/		4,169,584	10-02-1979	Mangalick			

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/SK/		4,192,011	03-04-1980	Cooper et al.			
		4,213,091	07-15-1980	Cooper			
		4,213,176	07-15-1980	Cooper			
		4,219,882	08-26-1980	Cooper et al.			
		4,244,423	01-13-1981	Thut et al.			
		4,286,985	09-01-1981	van Linden et al.			
		4,322,245	03-30-1982	Claxton			
/SK/		4,347,041	08-31-1982	Cooper			
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/SK/		4,351,514	09-28-1982	Koch			
		4,360,314	11-23-1982	Pennell			
		4,370,096	01-25-1983	Church			
		4,372,541	02-08-1983	Bocourt et al.			
		4,375,937	03-08-1983	Cooper			
		4,392,888	07-12-1983	Eckert et al.			
		4,410,299	10-18-1983	Shimoyama			
/SK/		4,456,424	06-26-1984	Araoka			
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/SK/		4,456,974	06-26-1984	Cooper			
		4,470,846	09-11-1984	Dube			
		4,489,475	12-25-1984	Struttman			
		4,504,392	03-12-1985	Groteke			
		4,537,624	08-27-1985	Tenhover et al.			
		4,537,625	08-27-1985	Tenhover et al.			
		4,556,419	12-03-1985	Otsuka et al.			
/SK/		4,557,766	12-10-1985	Tenhover et al.			
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/SK/		4,586,845	05-06-1986	Morris			
		4,593,597	06-10-1986	Albrecht et al.			
		4,598,899	07-08-1986	Cooper			
		4,600,222	07-15-1986	Appling			
		4,609,442	09-02-1986	Tenhover et al.			
		4,611,790	09-16-1986	Otsuka et al.			
		4,634,105	01-06-1987	Withers et al.			
/SK/		4,640,666	02-03-1987	Sodergard			

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/SK/		4,651,806	03-24-1987	Allen et al.			
		4,696,703	09-29-1987	Henderson et al.			
		4,701,226	10-20-1987	Henderson et al.			
		4,714,371	12-22-1987	Cuse			
		4,717,540	01-05-1988	McRae et al.			
		4,743,428	05-10-1988	McRae et al.			
		4,747,583	05-31-1988	Gordon et al.			
/SK/		4,770,701	09-13-1988	Henderson et al.			

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Form PTO-1449 (REV. 8-83)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 23438.00045		APPLICATION NO. 10/773,101	
INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)				APPLICANT Paul V. Cooper			
				FILING DATE February 4, 2004		GROUP UNKNOWN	
				SYSTEM FOR RELEASING GAS INTO MOLTEN METAL			
U. S. PATENT DOCUMENTS							
EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
/SK/		4,786,230	11-22-1988	Thut			
		4,802,656	02-07-1989	Hudault et al.			
		4,804,168	02-14-1989	Otsuka et al.			
		4,810,314	03-07-1989	Henderson et al.			
		4,834,573	05-30-1989	Asano et al.			
		4,842,227	06-27-1989	Harrington et al.			
		4,844,425	07-04-1989	Piras et al.			
/SK/		4,851,296	07-25-1989	Tenhover et al.			
FOREIGN PATENT DOCUMENTS							
	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
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EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
/SK/		4,859,413	08-22-1989	Harris et al.			
		4,867,638	09-19-1989	Handtmann et al.			
		4,884,786	12-05-1989	Gillespie			
		4,898,367	02-06-1990	Cooper			
		4,923,770	05-08-1990	Grasselli et al.			
		4,930,986	06-05-1990	Cooper			
		4,931,091	06-05-1990	Waite et al.			
/SK/		4,940,214	07-10-1990	Gillespie			
FOREIGN PATENT DOCUMENTS							
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EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
/SK/		4,940,384	07-10-1990	Amra et al.			
		4,954,167	09-04-1990	Cooper			
		4,973,433	11-27-1990	Gilbert et al.			
		4,989,736	02-05-1991	Andersson et al.			
		5,006,232	04-09-1991	Lidgitt et al.			
		5,028,211	07-02-1991	Mordue et al.			
		5,049,841	09-17-1991	Cooper et al.			
/SK/		506,572	10-10-1893	Wagener			
FOREIGN PATENT DOCUMENTS							
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EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE	
/SK/		5,078,572	01-07-1992	Amra et al.				
		5,088,893	12-18-1992	Gilbert et al.				
		5,092,821	03-03-1992	Gilbert et al.				
		5,098,134	03-24-1992	Monckton				
		5,099,554	03-31-1992	Cooper				
		5,131,632	07-21-1992	Olson				
		5,143,357	09-01-1992	Gilbert et al.				
/SK/		5,145,322	09-08-1992	Senior, Jr. et al.				
FOREIGN PATENT DOCUMENTS								
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EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE	
/SK/		5,152,631	10-06-1992	Bauer				
		5,158,440	10-27-1992	Cooper et al.				
		5,162,858	11-10-1992	Shoji et al.				
		5,165,858	11-24-1992	Gilbert et al.				
		5,172,458	12-22-1992	Cooper				
		5,177,304	01-05-1993	Nagel				
		5,191,154	03-02-1993	Nagel				
/SK/		5,192,193	03-09-1993	Cooper et al.				
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/SK/		5,202,100	04-13-1993	Nagel et al.			
		5,203,681	04-20-1993	Cooper			
		5,209,641	05-11-1993	Hoglund et al.			
		5,215,448	06-01-1993	Cooper			
		5,268,020	12-07-1993	Claxton			
		5,286,163	02-15-1994	Amra et al.			
		5,298,233	03-29-1994	Nagel			
/SK/		5,301,620	04-12-1994	Nagel et al.			
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/SK/		5,308,045	05-03-1994	Cooper				
		5,310,412	05-10-1994	Gilbert et al.				
		5,318,360	06-07-1994	Langer et al.				
		5,322,547	06-21-1994	Nagel et al.				
		5,324,341	06-28-1994	Nagel et al.				
		5,330,328	07-19-1994	Cooper				
		5,354,940	10-11-1994	Nagel				
/SK/		5,358,549	10-25-1994	Nagel et al.				
FOREIGN PATENT DOCUMENTS								
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U. S. PATENT DOCUMENTS

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/SK/		5,358,697	10-25-1994	Nagel			
		5,364,078	11-15-1994	Pelton			
		5,369,063	11-29-1994	Gee et al.			
		5,383,651	01-24-1995	Blasen et al.			
		5,388,633	02-14-1995	Mercer II et al.			
		5,395,405	03-07-1995	Nagel et al.			
		5,399,074	03-21-1995	Nose et al.			
/SK/		5,407,294	04-18-1995	Giannini			

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EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE	
/SK/		5,425,410	06-20-1995	Reynolds				
/SK/		5,431,551	07-11-1995	Aquino et al.				
/SK/		5,435,982	07-25-1995	Wilkinson				
/SK/		5,436,210	07-25-1995	Wilkinson et al.				
/SK/		5,443,572	08-22-1995	Wilkinson et al.				
/SK/		5,454,423	10-03-1995	Tsuchida et al.				
/SK/		5,468,280	11-21-1995	Areaux				
/SK/		5,470,201	11-28-1995	Gilbert et al.				
FOREIGN PATENT DOCUMENTS								
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EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
/SK/		5,484,265	01-16-1996	Horvath et al.			
		5,489,734	02-06-1996	Nagel et al.			
		5,491,279	02-13-1996	Robert et al.			
		5,495,746	03-05-1996	Sigworth			
		5,505,143	04-09-1996	Nagel			
		5,509,791	04-23-1996	Turner			
		5,537,940	07-23-1996	Nagel et al.			
/SK/		5,543,558	08-06-1996	Nagel et al.			

FOREIGN PATENT DOCUMENTS

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EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE	
/SK/		5,555,822	09-17-1996	Loewen et al.				
		5,558,501	09-24-1996	Wang et al.				
		5,558,505	08-24-1996	Mordue et al.				
		5,571,486	11-05-1996	Robert et al.				
		5,585,532	12-17-1996	Nagel				
		5,586,863	12-24-1996	Gilbert et al.				
		5,597,289	01-28-1997	Thut				
/SK/		5,613,245	03-18-1997	Robert				
FOREIGN PATENT DOCUMENTS								
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/SK/		5,622,481	04-22-1997	Thut			
		5,629,464	05-13-1997	Bach et al.			
		5,634,770	06-03-1997	Gilbert et al.			
		5,640,706	06-17-1997	Nagel et al.			
		5,640,707	06-17-1997	Nagel et al.			
		5,640,709	06-17-1997	Nagel et al.			
		5,655,849	08-12-1997	McEwan et al.			
/SK/		5,662,725	09-02-1997	Cooper			

FOREIGN PATENT DOCUMENTS

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/SK/		5,676,520	10-14-1997	Thut			
		5,678,244	10-14-1997	Shaw et al.			
		5,678,807	10-21-1997	Cooper			
		5,679,132	10-21-1997	Rauenzahn et al.			
		5,685,701	11-11-1997	Chandler et al.			
		5,690,888	11-25-1997	Robert			
		5,695,732	09-09-1997	Sparks et al.			
/SK/		5,716,195	02-10-1998	Thut			
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EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE	
/SK/		5,717,149	02-10-1998	Nagel et al.				
		5,718,416	02-17-1998	Flisakowski et al.				
		5,735,668	04-07-1998	Klien				
		5,735,935	04-07-1998	Areaux				
		5,741,422	04-21-1998	Eichenmiller et al.				
		5,744,117	04-28-1998	Wilkinson et al.				
		5,745,861	04-28-1998	Bell et al.				
/SK/		5,755,847	05-26-1998	Quayle				
FOREIGN PATENT DOCUMENTS								
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/SK/		5,772,324	06-30-1998	Falk			
		5,776,420	07-07-1998	Nagel			
		5,785,494	07-28-1998	Vild et al.			
		5,805,067	09-08-1989	Bradley et al.			
		5,810,311	09-22-1998	Davison et al.			
		5,842,832	12-01-1998	Thut			
		585,188	06-29-1897	Davis			
/SK/		5,858,059	01-12-1999	Abramovich et al.			
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/SK/		5,864,316	01-26-1999	Bradley et al.			
		5,866,095	02-02-1999	McGeever et al.			
		5,875,385	02-23-1999	Stephenson et al.			
		5,935,528	08-10-1999	Stephenson et al.			
		5,944,496	08-31-1999	Cooper			
		5,947,705	09-07-1999	Mordue et al.			
		5,949,369	09-07-1999	Bradley et al.			
/SK/		5,951,243	09-14-1999	Cooper			
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U. S. PATENT DOCUMENTS								
EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE	
/SK/		5,993,726	11-30-1999	Huang				
		5,993,728	11-30-1999	Vild				
		5,995,041	11-30-1999	Bradley et al.				
		6,024,286	02-15-2000	Bradley et al.				
		6,027,685	02-22-2000	Cooper				
		6,036,745	03-14-2000	Gilbert et al.				
		6,074,455	06-13-2000	van Linden et al.				
/SK/		6,093,000	07-25-2000	Cooper				
FOREIGN PATENT DOCUMENTS								
	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION	
							YES	NO
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U. S. PATENT DOCUMENTS							
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/SK/		6,096,109	08-01-2000	Nagel et al.			
		6,019,576	02-01-2000	Thut			
		6,113,154	09-05-2000	Thut			
		6,123,523	09-26-2000	Cooper			
		6,152,691	11-28-2000	Thut			
		6,187,096	02-13-2001	Thut			
		6,217,823	04-17-2001	Vild et al.			
/SK/		6,231,639	05-15-2001	Eichenmiller et al.			
FOREIGN PATENT DOCUMENTS							
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/SK/		6,243,366	06-05-2001	Bradley et al.				
		6,250,881	06-26-2001	Mordue et al.				
		6,254,340	07-03-2001	Vild et al.				
		6,270,717	08-07-2001	Tremblay et al.				
		6,280,157	08-28-2001	Cooper				
		6,298,759	09-25-2001	Thut				
		6,303,074	10-16-2001	Cooper				
/SK/		6,345,964	02-12-2002	Cooper				
FOREIGN PATENT DOCUMENTS								
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/SK/		6,358,467	03-19-2002	Mordue				
		6,398,525	06-04-2002	Cooper				
		6,439,860	08-27-2002	Greer				
		6,451,247	09-17-2002	Mordue et al.				
		6,457,950	10-01-2002	Cooper et al.				
		6,464,458	10-15-2002	Vild et al.				
		6,495,948	12-17-2002	Garrett, III				
/SK/		6,497,559	12-24-2002	Grant				
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/SK/		6,524,066	02-25-2003	Thut			
		6,533,535	03-18-2003	Thut			
		6,551,060	04-22-2003	Mordue et al.			
		6,648,026	11-18-2003	Look et al.			
		6,679,936	01-20-2004	Quackenbush			
		6,689,310	02-10-2004	Cooper			
		6,695,510	02-24-2004	Look et al.			
/SK/		6,709,234	03-23-2004	Gilbert et al.			

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/SK/		6,716,147	04-06-2004	Hinkle et al.				
		6,723,276	04-20-2004	Cooper				
		6,805,834	10-19-2004	Thut				
		6,843,640	01-18-2005	Mordue et al.				
		6,848,497	02-01-2005	Sale et al.				
		6,869,271	05-24-2005	Uchida et al.				
		6,869,564	03-22-2005	Gilbert et al.				
/SK/		6,881,030	04-19-2005	Thut				
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/SK/		6,887,424	05-03-2005	Ohno et al.			
		6,887,425	05-03-2005	Mordue et al.			
		898,499	09-15-1908	O'Donnell			
		20010000465	04-26-2001	Thut			
		20010012758	08-09-2001	Bradley et al.			
		20020041788	04-11-2002	Look et al.			
		20020102159	08-01-2002	Thut			
/SK/		20020146313	10-10-2002	Thut			

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/SK/		20020187947	12-12-2002	Jarai et al.			
		20030059302	03-27-2003	Mordue et al.			
		20030075844	04-24-2003	Mordue et al.			
		20030151176	08-14-2003	Ohno et al.			
		20030185679	10-02-2003	Mordue et al.			
		20040007284	01-15-2004	Look et al.			
		20040022632	02-05-2004	Thut			
/SK/		20040056395	03-25-2004	Thut			
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/SK/		20040076533	04-22-2004	Cooper			
		20040084172	05-06-2004	Vincent et al.			
		20040115079	06-17-2004	Cooper			
		20040199435	10-07-2004	Abrams et al.			
		20040123970	07-01-2004	Neff			
		20040215204	10-28-2004	Davison et al.			
		20040262825	12-30-2004	Cooper			
/SK/		20050013713	01-20-2005	Cooper			

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/SK/		20050013714	01-20-2005	Cooper				
		20050013715	01-20-2005	Cooper				
		20050053499	03-10-2005	Cooper				
		20050077730	04-14-2005	Thut				
		20050081607	04-21-2005	Patel et al.				
/SK/		20050116398	06-02-2005	Tremblay				
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